

IN THE CLAIMS:

Kindly cancel claims 1, 4 and 7, and amend claims 2, 3, 5 and 6 as follows:

1. (Cancelled)

2. (Currently Amended) [[The]] A device for iontophoresis for supplying a drug to transdermal or transmucosal tissues, having positive and negative output terminals, comprising:

a first circuit comprising:

(a) a detection circuit for detecting reactive current flowing through a capacity component of impedance of the transdermal or the transmucosal tissues based on current outputted from the negative output terminal; and/or

(b) a detection circuit for detecting residual voltage developed by the charge remaining in a capacity component of impedance of the transdermal or the transmucosal tissue based on a voltage existing between the output terminals during an off-period of an output;

a second circuit for determining a conduction state of current into the transdermal or the transmucosal tissue based on the output detected by the first circuit;

, wherein the detection circuit for detecting the reactive current includes further comprises:

a resistor coupled to the negative output terminal[[],];

a switch for sending one of positive and negative waveforms of current from the resistor[[],]; and

a capacitor for smoothing out the current waveform ~~from appearing across~~ the switch.

3. (Currently Amended) [[The]] A device for iontophoresis according to Claim 1, for supplying a drug to transdermal or transmucosal tissues, having positive and negative output terminals, comprising:

a first circuit comprising:

(a) a detection circuit for detecting reactive current flowing through a capacity component of impedance of the transdermal or the transmucosal tissues based on current outputted from the negative output terminal; and/or

(b) a detection circuit for detecting residual voltage developed by the charge remaining in a capacity component of impedance of the transdermal or the transmucosal tissue based on a voltage existing between the output terminals during an off-period of an output comprising wherein the detection circuit for detecting the residual voltage further comprises a discharging resistor coupled between the output terminals; and a second circuit for determining a conduction state of current into the transdermal or the transmucosal tissue based on the output detected by the first circuit.

4. (Cancelled)

5. (Currently Amended) [[The]] A method for determining the operation of an iontophoresis apparatus according to Claim 4, having positive and negative output terminals, comprising:

detecting a reactive current flowing through a capacity component of impedance of the transdermal or the transmucosal tissue by measuring a current outputted from the negative output terminal; and/or

detecting a residual voltage developed by the charge remaining in a capacity component of impedance of the transdermal or the transmucosal tissue by measuring voltage appearing between the output terminals during an off-period of an output,
thus determining a conduction state of current flowing into the transdermal or the transmucosal tissue,

wherein the detection of the reactive current is carried out so as to send one of positive and negative waveforms of current appearing across a resistor coupled to the negative output terminal by using a switch and smoothing out the current waveform by using a capacitor.

6. (Currently Amended) [[The]] A method for determining the operation of an iontophoresis apparatus according to Claim 4, having positive and negative output terminals, comprising:

detecting a reactive current flowing through a capacity component of impedance of the transdermal or the transmucosal tissue by measuring a current outputted from the negative output terminal; and/or

detecting a residual voltage developed by the charge remaining in a capacity component of impedance of the transdermal or the transmucosal tissue by measuring voltage appearing between the output terminals during an off-period of an output,

thus determining a conduction state of current flowing into the transdermal or the transmucosal tissue,

wherein the detection of the residual voltage is carried out by using a discharging resistor coupled between the output terminals.

7. (Cancelled)